

## CLAIMS LISTING

1-9. (cancelled)

10. (currently amended) A fine pore filter prepared by the method of:

forming a slurry comprising solvent, alumina and at least

0.01 wt % surfactant wherein said slurry has

sufficiently low shear stress at high shear rates less

than 12,000 dynes/cm<sup>2</sup> at a shear rate of 500/sec. such

that it can enter organic foam with pore size equal to

or less than 60 ppi;

impregnating an organic foam with said slurry to form an

impregnated foam wherein said organic foam has a pore

size equal to or less than 60 ppi;

drying said impregnated foam to form a dry impregnated foam;

impregnating an organic foam with said slurry to form an

impregnated foam;

drying said impregnated foam to form a dry impregnated

foam;

heating said dry impregnated foam to remove said organic

foam thereby forming a green ceramic; and

heating said green ceramic to a temperature sufficient to  
sinter said green ceramic wherein  
said filter has a density of less than 10% of the  
theoretical density for a ceramic material of the same  
size and a compressive yield stress of at least ~~20~~ 80  
psi.

11.(cancelled)

12.(currently amended) A filter for filtering impurities from  
molten metal wherein said filter comprises ceramic and said  
filter has a density of less than 10% of the theoretical  
density for a ceramic material of the same size and a  
compressive yield stress of at least ~~20~~ 60 psi and said  
filter has a porosity no coarser than 60 ppi.

13.(cancelled)

14.(currently amended) The filter of claim ~~13~~ 12 wherein said  
filter has a density of no more than 6% of the theoretical  
density for a ceramic material of the same size.

15.(cancelled)

16.(cancelled)

17.(currently amended) The filter of claim ~~16~~ 12 wherein said  
filter has a compressive yield stress of at least 80 psi.

18.(currently amended) A filter of claim 12 wherein said filter has a ~~density of at least 12% of the theoretical density for a ceramic material of the same size and a~~ compressive yield stress of at least 90 psi.

19.(cancelled)

20.(cancelled)

21.(previously presented) A filter of claim 12 comprising a pressure drop of less than 3 in./water at an air flow velocity of 285 ft/min. in a 4 inch diameter circular area.

22.(previously presented) A filter of claim 12 having dimensions of at least about 38.1 x 38.1 x 2.54 cm to no larger than about 76.2 x 76.2 x 7.62 cm.

23.(cancelled)

24.(cancelled)

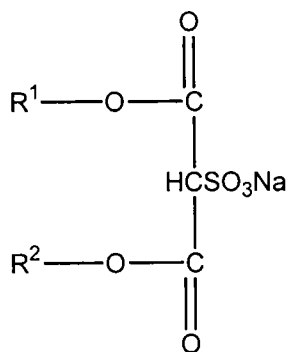
25.(currently amended) The fine pore A filter of claim ~~13~~ 10 wherein said filter has a ~~density of at least 12% of the theoretical density for a ceramic material of the same size and~~ a compressive yield stress of at least 90 psi.

26.(currently amended) The fine pore A filter of claim 10 comprising a pressure drop of less than 3 in./water at an air flow velocity of 285 ft/min. in a 4 inch diameter

circular area.

27.(currently amended)    The fine pore A filter of claim 10  
having dimensions of at least about 38.1 x 38.1 x 2.54 cm  
to no larger than about 76.2 x 76.2 x 7.62 cm.

28.(previously presented)    The fine pore filter of claim 10  
wherein said surfactant comprises Formula I:



Formula I

wherein R<sup>1</sup> and R<sup>2</sup> independently represent an alkyl of 1-8  
carbons with the proviso that the number of carbons in R<sup>1</sup>  
and R<sup>2</sup> combined does not exceed 15.

29.(previously presented)    The fine pore filter of claim 28  
wherein the number of carbons in R<sup>1</sup> and R<sup>2</sup> combined does not  
exceed 14.

30.(previously presented)    The fine pore filter of claim 29  
wherein the number of carbons in R<sup>1</sup> and R<sup>2</sup> combined does not  
exceed 13.

31.(previously presented)       The fine pore filter of claim 10  
      wherein said slurry comprises no more than 1 wt%  
      surfactant.

32.(cancelled)

33.(cancelled)

34.(previously presented)       The fine pore filter of claim 10  
      wherein said alumina is selected from sintered alumina and  
      phosphate bonded alumina.

35.(new)   A fine pore filter prepared by the method of:  
      forming a slurry comprising solvent, alumina and at least  
      0.01 wt % surfactant wherein said slurry has  
      sufficiently low shear stress at high shear rates less  
      than 12,000 dynes/cm<sup>2</sup> at a shear rate of 500/sec. such  
      that it can enter organic foam with pore size equal to  
      or less than 60 ppi;  
      impregnating an organic foam with said slurry to form an  
      impregnated foam wherein said organic foam has a pore  
      size equal to or less than 60 ppi;  
      drying said impregnated foam to form a dry impregnated foam;  
      impregnating an organic foam with said slurry to form an  
      impregnated foam;

drying said impregnated foam to form a dry impregnated  
foam;  
heating said dry impregnated foam to remove said organic  
foam thereby forming a green ceramic; and  
heating said green ceramic to a temperature sufficient to  
sinter said green ceramic wherein  
said filter has a density of less than 10% of the  
theoretical density for a ceramic material of the same  
size and a compressive yield stress of at least 20  
psi.